

Amendments to the Specification:

Clarification is requested by the Examiner regarding the meaning of “light emitting species 29”. In order to clarify the many different materials that can form light emitting species 29. The following amendment to the specification is entered herein. On page 5, line 17, replace “These materials” with “Specifically, light emitting species 29”.

In the same vein, the specification has also been amended to better define an “asymmetric geometric element 36” as shown in Figures 5A-5C. Accordingly, the following sentence should be entered on page 9, line 27 before “A schematic top...”. The new sentence is, “That is to say the asymmetric geometric element 36 has a first dimension different from a second orthogonal dimension, as illustrated in Figures 5A-5C.” References to Figure 5D has been deleted throughout the specification and the drawings.

The Examiner should also note that in Figure 2B light emitting species 29 are shown as an integral part of light emitting layer 23, which itself is a component of vertical cavity laser structure 20

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Please delete the paragraph beginning on page 4, line 7.

~~FIG. 5D is a schematic top view of a vertical cavity laser structure with an alternate asymmetric geometric element consisting of a polarization selective mirror;~~

Please replace the paragraph beginning on page 5, line 5 with the following rewritten paragraph:

-- The polarized light 7 emitted from the asymmetric light emitting structure 6 may be either coherent or incoherent. Referring to FIG. 2A, a coherent source of polarized light 7 may be formed, according to one embodiment of the present invention, by first providing a substrate 10 having a first and a second side. A vertical cavity laser structure 20 that produces colored, polarized light 7 is formed on the first side of substrate 10. Referring to FIG. 2B, the vertical cavity laser structure 20 has a light emitting layer 23 that possesses a plurality of light emitting species 29, wherein orientation of the light emitting species 29 is uncontrolled. Vertical cavity laser structures 20 are known in the art

and disclosed, for example, in references cited below. The light emitting layer 23 has mirrors 19 and 21 placed above and below that form an optical cavity structure. A number of materials may be used for the light emitting layer 23 including materials with a high light emitting quantum yield. ~~These materials~~ Specifically, light emitting species 29 typically include organic dyes, polymers, thin film semiconductor materials, such as CdSe, CdS, ZnS, ZnSe, and quantum dots (small nanocrystals) fabricated from these materials and coated in a binder. Typical quantum dots include CdSe quantum dots; typical binders are polymeric materials. Materials fabricated from Group II and Group VI elements of the periodic table form highly emissive materials in thin film form; similarly Group III and Group V elements can be made into emissive compounds as is well known in the art. --

Please replace the paragraphs beginning on page 9, line 14 with the following rewritten paragraphs:

-- It is well known in the art of vertical cavity lasers that VCSELs offer the opportunity for polarization control. Geometrically symmetric VCSELs possess degenerate transverse modes with orthogonal polarization states. Consequently, it is necessary to break the symmetry of the VCSELs in order to force a particular mode of oscillation, and thus a particular polarization state. Such polarized output devices use an asymmetric geometric element to produce polarized light. In pending U.S. Patent Application No. 10/395,484, filed March 24, 2003, by John P. Spoonhower et al., titled "Organic Fiber Laser System And Method," which is incorporated herein by reference, means for producing a polarized light output from an organic vertical cavity laser are disclosed. The asymmetric geometric elements may be a vertical cavity surface emitting laser 20 with asymmetric lateral confinement provided by reflectivity modulation of the cavity mirrors. FIG. 5A shows a schematic top view of a vertical cavity laser structure with an asymmetric geometric element 36 of this type. That is to say, the asymmetric geometric element 36 has a first dimension different from a second orthogonal dimension, as illustrated in Figures 5A-5C A schematic top view of a vertical cavity laser structure 20 is shown with external lateral confinement structures 38 shown. Alternatively, the asymmetric geometric elements may be a vertical cavity surface emitting laser 20 with asymmetric

lateral confinement provided by a photonic bandgap structure placed adjacent to the laser cavity. FIG. 5B shows a schematic top view of a vertical cavity laser structure with an asymmetric geometric element 36 of this type. The photonic bandgap 40 confines the lateral dimensions of the laser cavity in an asymmetric fashion.

Alternatively, the asymmetric geometric element may be a grating. FIG. 5C shows a schematic top view of a vertical cavity structure 20 with a grating 42 as the asymmetric geometric element 36. Where the asymmetric geometric element 36 is a grating, the grating preferably improves surface plasmon light output coupling for one polarization direction. Finally, FIG. 5D shows a schematic top view of a vertical cavity structure 20 with a grating as the asymmetric geometric element 36. A polarization selective mirror 44 provides for significant multipass gain within the laser cavity, but only for one preferred direction (indicated by the arrow in FIG 5D). The vertical cavity laser structure 20 will achieve the threshold for laser oscillation at a lower pump power and oscillates in a mode with the preferred polarization output. --